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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,867	05/28/2002	Peter Wirtz	WIRTZ ET AL -1 PCT	5687

25889 7590 09/17/2007
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EXAMINER

RUDDOCK, ULA CORINNA

ART UNIT	PAPER NUMBER
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1771

MAIL DATE	DELIVERY MODE
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09/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/069,867	Applicant(s) WIRTZ ET AL.	
	Examiner Ula C. Ruddock	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-23 and 29-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-23, 29-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Examiner has carefully considered Applicant's amendments and accompanying remarks filed July 5, 2007.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 17-23 and 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pall et al. (US 3,327,866) in view of Buck (US 6,284,201). Pall et al. disclose a woven wire mesh for use in filters (col 1, ln 8-9). The wires are usually monofilaments, which are preferred for filter uses (col 4, ln 71-72). The filter media can be a depth filter (col 1, ln 50-52). The warp diameter is larger than the shoot (i.e. weft) diameter (Table 2). The wire mesh can be woven of wires of any metal, preferably stainless steel (col 4, ln 58-63). The wire mesh can be used as filters in single or multiple layers (col 5, ln 55-56). Pall et al. disclose the claimed invention except for the teaching that a plurality of metal fibers threads are worked in between the metal wires.

Buck (US 6,284,201) discloses a catalyst body which comprises a knitted fabric comprised of heat-resistant fibrous material (abstract). The catalyst body is used as the exhaust gas purification of motor vehicle engines (col 1, ln 19-20) and also acts as a filter for particulate pollutants (col 2, ln 53-55). The knitted fabric also comprises at least one metallic thread which can be worked into the knitted fabric which gives the knitted fabric additional dimensional stability and improved strength (col 2, ln 65-67 to col 3, ln 1; col 10, ln 42-50). It would have been obvious to one having ordinary skill in the art to have inserted Buck's metallic threads into the woven wire

mesh of Pall et al., motivated by the desire to create a filter having additional dimensional stability and improved strength.

Regarding Applicant's limitations in claims 17, 29, and 30, it has been held that fiber diameter and fiber density are result effective variables. For example, the diameter of a fiber directly affects the strength of the fiber and fabric. The number of fibers in a thread directly affects the stability of the fabric. Therefore, it would have been obvious to one having ordinary skill in the art to have made the fibers have a diameter less than 100 μm or 30 μm , to have made the fiber thread have more than 100 fibers or 500 fibers, and to have made the metal fiber thread have a larger diameter than the metal wire, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have optimized the fiber diameter and fiber density, motivated by the desire to create a mesh with the desired filtration properties.

Regarding claim 19, it would have been obvious to one having ordinary skill in the art to have made the metal wires constitute the warp and the metal fiber threads constitute the weft of the cloth, motivated by the desire to create dimensional stability in a desired direction.

Rejection is maintained.

Response to Arguments

4. Applicant's arguments filed July 5, 2007, have been fully considered but they are not persuasive for the reasons set forth. Applicant argues that it is not possible to incorporate a metal fiber yarn into a fabric as shown in Pall et al. and it would not have been obvious to one of ordinary skill in the art to incorporate the metal fiber yarn shown in Buck into the fabric shown in Pall et al.

This argument is not persuasive because Pall et al. disclose a wide range of pore sizes (Table I-V) and, as a result, it is the Examiner's position that it would be possible to incorporate a metal fiber yarn into the fabric of Pall et al. Furthermore, it should be noted that if it is obvious to combine references for one reason, it is obvious to combine references for all reasons. *In re Graf*, 145 USPQ 197 (CCPA 1965); *In re Finsterwalder*, 168 USPQ 530 (USPQ 1970). Therefore, the rejection is maintained.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ula C. Ruddock whose telephone number is 571-272-1481. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/U. C. R./

/Ula C Ruddock/
Primary Examiner, Art Unit 1771